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UNITED STATES DEPARTMENT OF AGRICULTURE
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FARM SCIENCE SNAPSHOTS Saturday, October 6, 1928.

NOT FOR PUBLICATION

READING TIME: 11 minutes.

ANNOUNCEMENT: We now present the Farm Science Snapshots. These Farm Science Snapshots are a new program feature. They are prepared for this Station by the United States Department of Agriculture. In them you will find pictures of progress in agricultural science. These Snapshots include not only glimpses at the work of Department scientists, but also flashes from experiment stations in various parts of the country. We give thses Farm Science Snapshots each Saturday. You may find in them information on some of your own problems worked out for you. --- Now, let's see those snapshots --

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Well, the Young dewberry is fast taking hold in the South. The Young dewberry is a comparatively new variety. The United States Department of Agriculture has been urging its use wherever dewberries are grown. But it hasn't taken much urging. Growers have come to realize that Young dewberries are as big or bigger than the Logan variety and much sweeter. More than that, they seem to be resistant to anthracnose and the common leaf-spot diseases. Growers in southern Alabama expect to plant several hundred acres to Young dewberries this winter for carload shipments to northern markets. Canning tests in California also indicate that the variety is especially adapted to canning.

Stockmen are coming to realize the value of statistics is helping them decide their problems. If a stockman knows the basic production and market facts of his business he can plan his business better. The figures show how the livestock market history tends to repeat itself. They enable the farmer to look ahead, and form policies with more confidence and a better chance to make money. In its Miscellaneous Publication No. 28-M, the United States Department of Agriculture has prepared a livestock review for 1927. That review is designed to give stockmen a perspective of the basic conditions in the livestock business. It also points out the short time variations and general trends of market supply and demand, and resulting prices last year. It gives a general interpretation of the livestock situation.

We all know enough about figures to know that what we get for livestock is the product of the weight and the price. We watch the prices closely, but we often lose on the weights. To get accurate weight, you

must have accurate scales. To have accurate scales you must keep them clean. Dirt, rust, and rats in scale pits may throw the scales off. Good drainage is also important. Ice on parts of the scale in the pit are a common cause of error in weights. Scale pits should be deep, and clean, and built so they are easy to examine. Small loads should be weighed on small scales.

Speaking of livestock, the name "alfalfa" is from an Arabic word. It means "the best fodder." A good many farm animals would probably agree that it is well named. They like it. In this country, the acreage in alfalfa has practically doubled every ten years since the census of 1899. But some who raise it have better success than others. There are always questions coming up about alfalfa. There are questions of varieties. There is the question of choosing the field for alfalfa. There are questions in regard to preparation of the soil, sowing, cultivation, making alfalfa hay, seed production, breaking alfalfa sod, and a number of others. But they are all answered in Farmers' Bulletin No. 1283, just revised on "How to Grow Alfalfa."

Hay should be thoroughly cured before it is stacked in a barn. If it is not well-cured, it may start one of those "mysterious" barn fires. In the old days, when we stored hay which was a little damp, we sprinkled salt on it. That was a good idea. You should use from three to ten pounds of salt to a ton of hay, according to the dampness. You see, the salt keeps down fermentation. When uncured hay is stored, fermentation is likely to set up. The fermentation generates heat. The heat accumulates in the center of a heavy mass of hay. Then when a little air gets into the pile, fire breaks out. Spontaneous combustion, such as that, costs farmers of this country $30,000,000 a year.

Precautions against fire pay. They certainly did last year in the National Forests. There were more fires than the year before. But the damage on protected land was much smaller. The damage amounted to $44,297,000 as against $15,048,000 the year before.

Did you ever realize how much the primitive Indians of the Southwest know about practical farming? Out where the rainfall averages less than 12 inches a year, they have managed to live through for hundreds of years. Recently the Arizona Experiment Station collected a few lessons from those Southwestern Indian Farmers. The station has published them for the benefit of other farmers. The Indian farmer is very particular to make sure that the soil he farms is deep. He aims to get a stratum of clay of high water-holding capacity 4 or 5 feet below the surface. And he locates his farm so he can make use of flood water.

He builds dams across the dry stream beds weeks before local rains begin. If he can't get flood water, he selects a sandy soil. He builds dikes and ditches to hold the winter moisture where it is needed. The Indian farmer

makes the greatest possible use of all spring water by raising garden vegetables. And he dries all the surplus vegetables and keeps them for winter use and to tide him over one or two years crop failure. He is very careful to keep his orchard free from weeds, so that his fruit will not be "bitter." In other words, he's been doing for centuries the things our scientists say we should do. And Lo, the poor Indian, is ahead of many of us in cooperation! He has learned that many hands make light work. He has also learned that every successful project needs a single directing head, and that all cooperators must support and follow his leadership. The Southwest Indians cooperate in plowing, weeding, harvesting, hunting, playing, building, in warfare and in religious ceremonies.

The Montana Experiment Station has tested the effect on wheat of wintering in the shock. They found that in all cases the wheat grade was lowered and the color injured by exposure to weather. Also that weathering has a very damaging effect on germination of the wheat.

The Kansas Experiment Station has found from four season's plantings of smutted sorghum seed that sorghum kernel smut can be controlled as well with flowers of sulfur and sulfur dusts as with copper carbonate. The sulfur didn't work so well with millet smut. Copper carbonate treatment is still best for the control of millet smut.

The Nebraska Experiment Station has been testing out tractors. They have found that there has been marked improvement in tractors during the past two years. Tractors now travel faster and on less gas. They also have more power for their weight and greater drawbar efficiency and are easier to repair.

The New York Experiment Station has been hunting ways to get rid of weeds. They find that wild mustard can best be controlled by cultivation in cultivated crops, and in grain fields by hand pulling, harrowing and spraying. Destruction of wild mustard seed in the soil is also important. They find that winter cress is not affected by the common sprays in solutions which won't also hurt grain. Scattered plants may be killed if cut off below the ground while young. Growing a cultivated crop for one or two years will kill out winter cress in badly infected fields or pasture which can be plowed. If plowing is impractical, they advise mowing the winter cress when it blooms or before the seed mature.

The North Carolina Experiment Station has shown that if quick and proper steps are taken roup can be eliminated from a flock of chickens. They have also found that there will be a considerable slump in egg production when there is roup in a flock, and that that loss is not made up later. In the flock studied there was a total loss of $1.47 per bird as a result of an attack of roup.

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The United States Civil Service Commission has announced examinations for the following jobs: Senior Agricultural Economist at $4,600 to $5,200 a year; Agricultural Economist at $3,800 to $4,400 a year; Associate Agricultural Economist at $3,200 to $3,700 a year; Assistant Agricultural Economist at $2,600 to $3,100 a year; Associate Plant Quarantine Inspector at $3,200 to $3,700 a year; Assistant Physiological Plant Anatomist at $2,600 to $3,100 a year; Associate Bacteriologist in Food Products at $3,200 to $3,700 a year; and Assistant Bacteriologist in Food Products at $2,600 to $3,000 a year. Applications for these positions must be on file with the Commission not later than October 17: The Commission has also announced the following examination, applications for which must be on file not later than October 24: Assiatant Market-Milk Specialist At $2,600 to $3,100 a year; Associate Land-Clearing Specialist at $3,200 to $3,700 a year; and Physiologist and Histologist at $3,800 to $4,400 a year. Full information in regard to these positions can be obtained from the United States Civil Service Commission.

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U. S. Department of Agriculture

FARM SCIENCE SNAPSHOTS

Saturday, Oct.13,1928

Reading Time: 9 minutes.

NOT FOR PUBLICATION

ANNOUNCEMENT: Each week this Station presents the Farm Science Snapshots, prepared by the United States Department of Agriculture. These Snapshots give brief pictures of agricultural progress. From them, you may also get hints of immediate practical value to you on your own farm. Hints which will help you keep step with farm progress.

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National Fire Prevention Week ends tonight. But the job of preventing farm fires must go on all 52 weeks of the year. About a third of all the fire losses in the United States take place on farms. Those big losses, amounting last year to 3,500 human lives and $150,000,000 worth of farm property, are a direct challenge to farming communities. It is up to us to do everything possible to smother that fire waste.

We are making progress in the prediction of cold waves. The United States Weather Bureau has now located a station at the tipmost point of northern Alaska. This new farthest north station reports by radio twice a day. These reports, together with the reports already being received from cooperating stations in northern Canada, will give the Weather Bureau advance notice, two or maybe three days ahead, that a cold wave may be expected in the lake region or the North Central States. Without this new information, a cold wave might slip up to within 12 hours distance before it was detected.

--- Stop, lady! -- Don't taste that raw sausage! --- Every year there are a number of deaths from trichinosis from doing just that thing. Every year some farmers' wives just taste the raw sausage to see if the seasoning is right. Or some folks even eat sausage or other pork raw. Of course, it looks all right.. The tiny worm which causes the disease of trichinosis is too small to see with the naked eye. The hog may have seemed healthy. Trichinosis seems to give hogs very little trouble, but one of those microscopic worms in the muscles of the hog may give humans a very painful and often fatal disease. Better cook pork thoroughly before you taste it, and take no chances.

And, speaking of the taste of things, you'd better be sure to keep the milk out of the light. Light causes milk to develop that cardboard taste. Some folks thought that cardboard taste in milk was due to the cardboard caps on milk bottles. The scientists tested it out, and found that daylight was the agent responsible for the trouble. That taste can't develop except in light. Keep the milk in the dark, even when the temperature of the air is near freezing.

Today is the day for the big National Dairy Exposition to start at Memphis. It runs all next week. One of the things on exhibit is a cow eight feet high. Not only that, but that giant cow talks. Of course, it is an artificial cow---a mechanical cow. However, you can learn more from it, than from a real cow. It is made so you can look inside, and watch it chew, and digest, and assimilate its feed. It is used to illustrate better methods of feeding dairy cows, and is part of the Government's own exhibit.

Another of the many exhibits shows the value of sweet clover for pasture, hay, and silage. Sweet clover pasture is not only as nutritious as alfalfa and less likely to cause bloat, but it adds a lot of nitrogen to the soil; if you give it plenty of lime and a compact seed bed.

Soy-bean oil tests can now be made in 15 minutes at an expense of less than 1 cent as compared with the old method which required 24 hours and a much bigger sample of seed. This will be a big help to the plant breeders who have been trying to develop high and low oil varieties of soybeans. Soft pork results from feeding soybeans with a lot of oil in them. One idea is to develop varieties low in oil for feeding purposes.

More cotton is being raised in the irrigated sections of the Southwestern States this year than last. Conditions are almost ideal for cotton growing in limited areas in some of the irrigated valleys. But some of the valleys are not well suited to cotton raising. In others, part is suited and part is not. By extending the area planted to cotton this year, it is feared more of the areas which produce irregular cotton will be included. The Department has warned that there is need of greater discrimination in buying, in order to supply "even-running lots" and to encourage the production of better cotton by more careful farming. The present system of indiscriminate buying has the effect of subsidizing the careless farmer, at the expense of producers of good cotton.

The Department of Agriculture has suggested ways for disposing of the big corn crop this year to best advantage. Fifty million more bushels could well be fed to livestock to the direct benefit of agriculture and with the least disturbance of prices for all commodities involved. The rations of many classes of livestock are flexible. If you keep in mind feeding values, you can make cheap, plentiful feeds serve in place of others at a substantial saving. Feeding for heavier cattle is a safe use for surplus corn. Cows, heifers, work stock and poultry can all help use corn to advantage.

The "free" feed your chickens and turkeys get in the form of earthworms, and snails, and slugs, and insects may be more expensive than it seems. The worms may be all right normally. The trouble is, sometimes worms have other worms inside them. For instance, earthworms sometimes are infested with gapeworms. Chickens may get the gapes by eating the earthworms containing gapeworms.

There has been a remarkable expansion of the fruit and vegetable industry in the United States in recent years. Increases in population, the changing food habits of our people, and ability to buy products formerly considered luxuries are responsible for this big expansion. There is, however, some danger of over-expansion. Studies show that a supply of fruits or vegetables considerably in excess of market demand often results in ruinously low returns to producers, without affecting retail prices in the same proportion.

The United States Department of Agriculture will cooperate with an organization of apple growers from all parts of the country in a comprehensive research program. Special attention will be given to questions of standardization and improvement of market practices.

ANNOUNCEMENT: This concludes todays' Farm Science Snapshots, prepared by the United States Department of Agriculture. More Snapshots will be presented next Saturday.

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FARM SCIENCE SNAPSHOTS

Saturday, October 20, 1928

NOT FOR PUBLICATION

ANNOUNCEMENT: Each week this Station presents the Farm Science Snapshots prepared by the United States Department of Agriculture. These Snapshots not only give glimpses of the work of Department scientists, but often give results of work in Experiment Stations scattered throughout the country. You may find the solution to your own particular farm problem in these Snapshots. ---

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All the cattle in North Carolina have now been tested for tuberculosis. All animals reacting to the test have been taken out and killed. North Carolina is the first state in the Union to complete that work. Every county in the State is now classified as "modified accredited area" and officially declared to have not more than one-half of one per cent of its cattle tuberculous. Every precaution will be taken to prevent the reinfection of any of the areas.

Maine may be next. Maine already has 13 of its 16 counties listed as "modified accredited area."

About 600,000 cattle were tested during the campaign in North Carolina. It began in 1917 and was completed this October. During the same period the campaign throughout the United States resulted in a reduction in cattle tuberculosis from 4 per cent to 2 per cent. That's encouraging!

But that's not the only way we are improving our dairy herds. The Ohio Experiment Station reports that by the use of purebred Jersey bulls from dams with high records they have boosted production in the Station herd. The purebred bulls from high-producing stock increased the average fat production of the dairy herd from 262 pounds to 366 pounds in six years time.

Rabbits are affected much earlier than cattle by poisoning from eating molded or spoiled sweet clover hay. So the North Dakota Station just tries out the hay on the rabbits. If the suspected hay kills the rabbits in 6 to 7 days, that hay is not considered fit for horses, sheep, or cattle. If the rabbits keep on eating the hay for two weeks before it kills them, the tests show that the hay can be fed with comparative safety to horses, sheep and older cattle as part rations. Or the hay may be alternated with reliable feeds.

And the trials at experiment stations keep on piling up evidence that it is important to know where seeds come from. The Cornell Experiment Station in New York recently tested varieties of red-clover seed. The tests showed that chances of success in growing red clover are better when the seed come from a climate similar to the climate where the seed is planted. Don't use seed produced under milder climate, unless you can't get better adapted seed, advise the specialists.

The eyespot disease of grasses was observed this year on golf courses several hundred miles north of the recognized natural range of that disease. The same grasses under ordinary growing conditions were not touched by the trouble. But on the putting greens where the grasses were given artificial sprinklings often, the eyespot disease showed up. It was getting an environment more like it was used to.

The Department of Agriculture is now recommending mercury compounds to control brown patch in lawns and golf greens. Bordeaux mixture has been used for years, but recent observations show that the copper in Bordeaux mixture accumulates in the soil. Ultimately it causes more damage than brown patch. If you use too much of the mercury compounds you will hurt the turf, but there is apparently no danger of an accumulation in the soil.

That tough problem of bindweed control has been tackled with some success by some of the western experiment stations. The Colorado station reports that proper cultivation gives promise of controlling bindweed in two years. They first plow deep and stop all irrigation. They follow that by cultivating clean and often with knives or such implements as the duckfoot which cut the roots of young bindweed two or three inches below the surface. But it is sometimes necessary to cultivate every four days to stop the top growth.

The Kansas Experiment Station has found that sodium chlorate spray will kill field bindweed under Kansas conditions, more economically than anything else. The spray solution is made by dissolving 100 pounds of sodium chlorate crystals in 100 gallons of water. That's enough for one treatment of one acre of bindweed. Three treatments will kill the weed, usually. Sodium chlorate, however, is dangerous to handle. It may start a fire, if you don't follow directions closely.

The Connecticut Experiment Station has found that blackhead in turkeys can be controlled by moving the turkeys to new yards every week. But that doesn't mean to yards which have recently been occupied by chickens and other barnyard fowls. Chickens and the others can transmit blackhead to turkeys. Change the turkeys to clean yards every week.

The Oklahoma Station has thrown some light on what farmers read. Workers interviewed 523 farm families in different sections of Oklahoma. They found 54 families took no magazines or newspapers of any sort. Each of the other 469 families, however, spent an average of $6.14 apiece for periodicals.

The standard of living on farms has been gone into in some detail in North Dakota. The Station there reports that the average farm family of five spent $944. They also used up farm products worth $564. The average savings were $974 a year. But that was the average. The separate accounts showed a range from a deficit of almost $3,000 to a surplus of nearly $8,000. Sixty-five farm families' accounts were studied.

Applescald may be practically unknown to growers. It doesn't usually show up until the apples leave the growers hands. But from the middle of December till the close of the apple season apples are offered at 10 to 40 per cent discount on account of scald. It is usually considered a storage disease, but the time of picking has a lot to do with it. Early picked, poorly colored apples are very susceptible to scald. Well-colored, well-matured apples are more resistant. The apples should also be cooled as quickly as possible and delivered to the storage plant promptly. Many serious losses from scald are the after affects of delayed storage.

Knotty lumber used to be a knotty problem. Folks did not want a plank with a knot in it. Now, however, the Forest Service has discovered that knot holes are good shock absorbers in boxes with short, thick sides. In boxes with short, thick sides made of clear boards, rough handling causes failure of the boxes at the nails. In the same type of box made with knotty lumber, the knot holes absorb the shocks of rough handling. Use of knotty boards for boxes may furnish an outlet for low-grade lumber. Not a bad prospect, as seen through a knot-hole!

The United States Civil Service Commission has announced an examination for assistant soil surveying aide at $1,620 to $1,920 a year. Applications must be on file with the commission not later than November 6. You can get full particulars from the United States Civil Service Commission,at Washington, D. C.

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ANNOUNCEMENT: Next week at this time we will present another series of Farm Science Snapshots, which are being prepared for us by the United States Department of Agriculture.

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FARM SCIENCE SNAPSHOTS Saturday, October 27, 1928

NOT FOR PUBLICATION

ANNOUNCEMENT: Each week this Station presents the Farm Science Shapshots, prepared by the United States Department of Agriculture. These Farm Snapshots give interesting views of agricultural research. In some of them, you may be able to see the solution of your own farm problems -------

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The spread of the corn borer can't be stopped!. The corn borer is going right on through the Corn Belt! That's the verdict of the insect specialists of the Department of Agriculture. We mourn the fact. But we "mourn not as those without hope." The clean-up campaign has shown that by proper clean-up we can keep down the numbers of corn borers. We can still raise corn in spite of them. We've just got to learn to live with the corn borer; as they have learned to do in parts of Europe. That means, we've got to make a thorough clean-up of all cornstalks, stubble, and other remnants before the first of each June.

The insect experts are now fighting insects on the wing. That is, they've gone after the pink bollworm of cotton in an airplane. The airplane is equipped with traps for catching pink bollworm moths in flight. With it, the scientists have invaded Mexico to study the migration of the moths from their native land to this country. The facts about migration of the pink bollworm moth are expected to help make this country safer for cotton growing.

The more we see of a lot of other insects, the better we like bees. But we will soon be putting the bees in the cellar. Farmers' Bulletin 1014 on "Wintering Bees in Cellars" gives tests by which to tell whether your cellar is a satisfactory place for wintering bees.

However, insects are good indicators of damage from forest fires. Attack by certain bark beetles and borers on trees injured by fire, makes it possible to predict that the trees will die many months sooner than it can be done any other way. For instance, ambrosia beetles attack only moist dead wood. When you find their pinhead tunnels in trees that have been injured by fire, it is a sure sign the part of the tree in which their galleries are extended has been killed. If their entrance holes go all the way around the base of the tree, the tree will not recover.

A considerable percentage of forest fire losses are in farm woodlands. During the fire season, especially on dry, windy days, farmers should keep an eye on the woods. Better have shovels, axes and rakes, and maybe watering cans or pumps handy. Perhaps a few furrows can be plowed around the woods as a fire break. You can kill two birds with one stone, by cutting standing dead trees and clearing up usable branches and litter from the ground and laying in the supply of winter stove-wood.

There is a "grow-sawlogs" campaign on among farmers in Arkansas. Farmers are being advised to grow timber to sawlog size rather than sell young timber cheaply for pulpwood.

Now in Clinton County, Ohio, there is a "safe-water" campaign on. The idea is to make all drinking water in the county safe. Last year, the health experts examined and tested 90 wells. From now on, they will keep tab on improvements. "The Farmstead Water Supply" is treated in Farmers' Bulletin 1448.

The mushroom industry is the newest to get the benefit of standardization by the Bureau of Agricultural Economics. We now have United States standards for mushrooms. Consumers may now demand that the mushrooms they buy shall conform to the specifications of U.S. Grade No. 1.

Speaking of being sure of things, of course you want to know what ears of corn are fit for seed. There are a number of ways to test germination of corn, but the rag-doll test is one of the cheapest, most convenient and most satisfactory. The rag-doll seed tester is described in Farmers' Bulletin No. 948.

And farmers should know where their red clover seed comes from. Workers at the Ohio Experiment Station have found that red clover seed grown in the northern United States or in Canada stands the winters better in Ohio and gives promise of better yields than seed coming from southern regions of this country or from foreign countries. The Missouri Station workers found at their Station that red clover seed grown in this country averaged 5,417 pounds of cured hay to the acre. Foreign red clover seed averaged only 3,214 pounds and also they sometimes found harmful weed seed in the foreign seed.

The Michigan Experiment Station tested yields of root crops over a period of three years. An acre of land produced on the average 40,000 pounds of mangels; 36,000 of turnips; 34,000 pounds of carrots; 26,000 pounds of rutabagas; and 24,000 pounds of garden beets. The investigators concluded that mangels was the best of the root crops for feeding livestock. Carrost kept best in storage; but they were closely followed in keeping quality by mangels and sugar beets.

The Alabama Experiment Station workers increased yields of corn and cotton by turning under vetch for green manure in the middle of March as much as they could by using 200 to 300 pounds of sodium nitrate. They also tried turning under the vetch on April 1 and 15. By that time the quantity of nitrogen turned under with the plants was double that turned under on March 15. However, the waiting until April increased corn yields, but it reduced cotton yields.

Fertilizer trials at the Connecticut Experiment Station led the workers there to conclude that alfalfa in Connecticut needs a complete mineral fertilizer. Nitrogenous fertilizers alone showed no profit and tended to increase weeds and grass in the stand. At the same station, other trials showed that phosphorus fertilizers are necessary to make fertilizing pastures pay. Superphosphate alone nearly doubled the production of the pastures. Superphosphate plus limestone or limestone and potassium made almost three times as much pasturage. The increased production from proper fertilization gave keep for twice as many steers as could be pastured on the plots before they were treated.

States reporting more hog cholera this fall than a year ago, are: Illinois, Ohio, Missouri Nebraska, Oklahoma, Maryland, Georgia, North Carolina, South Carolina, and Florida. In the states of Indiana, Kentucky, Kansas, Arkansas, and Mississippi there is reported about the same amount of hog cholera as last year. In Virginia, Alabama, Louisiana, and Texas, less hog cholera is reported.

Many wild fowl have lost their old homes, and stopping places. They have been pushed out by industrial and agricultural development of this country. Our wild ducks and geese are important assets. For that reason wild fowl refuges have been set aside along the principal lines of migration followed by the wild fowl. We haw have 80 such Federal refuges in the United States.

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ANNOUNCEMENT: Did you get those bulletin numbers? -- "Wintering Bees in Cellars" was Farmers' Bulletin No. 1014. "The Farmstead Water Supply" was Farmers' Bulletin 1448. And "that Rag-Doll Seed Tester" was Farmers' Bulletin No. 948 -- Better get one of those Farm Radio Record Books. They have spaces for taking down such things as bulletin numbers, and so forth. Just write us a line and we will send you one. They are free. They are issued by the United States Department of Agriculture, as are the bulletins.

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